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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/407,218	09/27/1999	YURI A. BABROV	M-5692US	2465

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EXAMINER

NOLAN, SANDRA M

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 06/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

ME 11

Office Action Summary

Application No.

09/407,218

Applicant(s)

BABROV ET AL.

Examiner

Sandra M. Nolan

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims

1. Claims 11-20 are pending.

Specification

2. The disclosure is objected to because of the following informalities:

In page 5, line 6, the expression "[2- -4]" is unclear.

In page 7, line 6, the expression "[2,3]" is unclear.

Appropriate correction is required.

Rejections Withdrawn

3. The 35 USC 102 rejection of claims 1-4 and 7, as anticipated by Makow (WO 9115800), as recited in section 3 of the Office Action dated July 5, 2001 (Paper No. 8), is withdrawn in view of applicants' amendments to the claims in the response dated January 17, 2002 (Paper No. 9).
4. The 35 USC 103 rejection of claims 5 and 6, as unpatentable over Makow in view of Jones et al (US 3,965,030), as stated in section 4 of Paper No. 8, is withdrawn in view of applicants' amendments in Paper No. 9.

New Rejections

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

What does "LC" mean? Please clarify.

7. Claims 11, 13 and 20 are rejected as indefinite for reciting the phrases "differing by value of phase shift" and "value of direction of fast optical axis".

To what art-recognized parameters do these properties correlate?

Please clarify.

8. Claims 11, 13, and 20 are also improper for reciting "and/or". It is difficult to ascertain the scope of the claims as they are now worded.

It is suggested that applicants can require both features/properties by using dependent claims. Also, alternative embodiments can be covered by dependent claims or additional independent claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 11-13 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Broer et al (WO 96/26462) in view of Sugawara et al (US-5,438,421).

Broer teaches liquid crystal display (LCD) devices that contain, as shown in Figure 1, a pair of polarizers 7, 8, and an optically anisotropic liquid crystal material 2 (page 4, lines 18-26). The outer surfaces of layer 2 may comprise other optically anisotropic materials 9, 13 (Figures 4b and 4c) that have sawtooth or curved surfaces (page 6, line 30; page 7, lines 8-10).

Broer does not teach that the liquid crystal material is a phase difference producing material.

Sugawara teaches, at col. 36, lines 56+, that liquid crystal film materials can be phase difference producers when the thickness of the high and low molecular weight species in the materials is controlled. The films have regions of varying thickness (Figures 5(a) through (e)). The films are used in LCD's having liquid crystal molecules oriented in a predetermined direction (col. 1, lines 11-13).

The patents are analogous because both deal with liquid crystal displays.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the liquid crystal film of Sugawara to produce a phase difference in the liquid crystal displays of Broer in order to facilitate orientation of the liquid crystal molecules into a predetermined direction.

The motivation to employ the films of Sugawara as phase difference producers in the LCD's of Broer is found at col. 1, lines 11-13 of Sugawara, where the orientation of the liquid crystal molecules in a predetermined direction

is taught. It is deemed desirable to control the appearance of an LCD by orienting the molecules of the liquid crystals therein into a predetermined direction so that the LCD can be easily read.

The use of conventional processes, such as those recited in claims 12, 16, 17, and 18, to make the liquid crystal materials for use in the LCD's suggested by the combination of Broer and Sugawara is deemed a matter of choice.

The transition temperature limitation of claim 19 is deemed to be an expected property of the liquid crystal materials of Sugawara.

11. Claims 11-13 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa (US 5,528,400) in view of Sugawara.

Arakawa teaches LCD devices comprising polarizers on either side of one or more optically anisotropic layers (col. 6, lines 13-30). See also Figure 3, as explained at col. 6, lines 16, 18 and 21-27, where polarizers **37a** and **37b** are outside of optical anisotropic layers **34a**, **35a** and **35b**.

Arakawa does not teach applicants' anisotropic layers.

Sugawara is discussed above.

The patents are analogous because both deal with liquid crystal displays.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the liquid crystal film of Sugawara to produce a phase difference in the liquid crystal displays of Arakawa in order to facilitate orientation of the liquid crystal molecules into a predetermined direction.

The motivation to employ the films of Sugawara as phase difference producers in the LCD's of Arakawa is found at col. 1, lines 11-13 of Sugawara,

where the orientation of the liquid crystal molecules in a predetermined direction is taught. It is deemed desirable to control the appearance of an LCD by orienting the molecules of the liquid crystals therein into a predetermined direction so that the LCD can be easily read.

The use of conventional processes, such as those recited in claims 12, 16, 17, and 18, to make the liquid crystal materials for use in the LCD's suggested by the combination of Arakawa and Sugawara is a matter of obvious choice.

The transition temperature limitation of claim 19 is deemed to be an expected property of the liquid crystal materials of Sugawara.

Conclusion

Any inquiry concerning this communication should be directed Sandra M. Nolan, whose telephone number is 703/308-9545. She can normally be reached on Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

If attempts to reach the Examiner by telephone are unsuccessful, her supervisor, Harold Pyon, can be reached at 703/308-4251. The general fax number for the art unit is 703/305-5436. The fax number for after final communications is 703/872-9310. The receptionist answers 703/308-0661.



S. M. Nolan
Patent Examiner
Technology Center 1700

SMN/smn
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